



Modeling Quarterly Review Meeting Watershed Modeling

January 20, 2016

CBPO Conference Room - The Fishshack
410 Severn Avenue Annapolis, MD 21403

For Remote Access:

Adobe Connect: <https://epawebconferencing.acms.com/modeling> (enter as guest)

Conference Line: (866)-299-3188 code 410-267-5731#

Event webpage: <http://www.chesapeakebay.net/calendar/event/23394/>

**10:00 Announcements and Amendments to the Agenda – Dave Montali, WVDEP-
Lee Currey, MDE**

**10:05 Review of Modeling Workgroup Membership – Dave Montali, WVDEP - Lee
Currey, MDE**

Guidance for updating the Modeling Workgroup membership will be finalized.

10:15 Phase 6 Watershed Model Schedule Update – Gary Shenk, EPA-CBP

Gary will present the 2016 Phase 6 development schedule with key links to the 2017 Midpoint Assessment schedule. Upcoming Beta releases of Phase 6 with their schedules, as well as the scheduled peer review of the Phase 6 Model, will be discussed. The elements of what will be available for the Modeling Workgroup and others to review the Phase 6 Beta 1 version will be described.

10:30 Phase 6, Beta 1 Calibration – Gopal Bhatt, PSU

The completed Phase 6 Beta 1 version will be comprehensively reviewed. The next steps in moving toward the Beta 2 release along with key scenarios of the entire watershed and Bay system by the April Quarterly Review will be discussed.

**11:30 Conowingo Infill Influence on Chesapeake Water Quality Workshop – Lew
Linker, EPA**

Highlights of the recent Conowingo STAC workshop will be discussed with an emphasis on application, i.e., how the information provided by this research and monitoring could improve CBP model simulation and contribute to the 2017 Midpoint Assessment decisions.

11:50 Phase 6 Reservoir Simulation Progress – Gopal Bhatt, PSU

Progress in the Phase 6 representation of the Lower Susquehanna and Conowingo reservoirs will be described.

12:30 LUNCH

1:30 A HEC-RAS Representation of Lakes Clark and Allred – Marty Teal (WEST Consultants)

Enhanced sediment transport models of Lake Clarke (Safe Harbor Dam) and Lake Aldred (Holtwood Dam) using HEC-RAS will be reviewed, and the plans and potential for integration of the HEC-RAS results and findings with the Phase 6 Watershed Model will be outlined. The Modeling Workgroup will review the proposal and recommend the degree and type of integration of HEC-RAS into the Phase 6 modeling system.

2:15 Lower Susquehanna River Impoundment Modeling Studies – Jim Fitzpatrick/Mark Velleux (HDR)

A sediment and nutrient mass balance model of Conowingo Pool called the Conowingo Pool Mass Balance Model (CPMBM) will be presented. The plans and schedule for completing the model, its current state, and potential for integrating with the Phase 6 Watershed Model will be discussed. The Modeling Workgroup will review the proposal and recommend the degree and type of integration of CPMBM into the Phase 6 modeling system.

3:00 ADJOURN



Modeling Quarterly Review Meeting Estuarine & Ecosystem Modeling

January 21, 2016

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10:00 Announcements and Amendments to the Agenda – Lee Currey, MDE - Dave Montali, WVDEP

10:05 WQSTM Calibration to the Phase 6, Beta 1 Loads – Carl Cerco, U.S. CoE ERDC

The Water Quality and Sediment Transport Model (WQSTM) calibration to the Phase 6 Beta 1 loads will be examined in detail. Insights into how the information from Conowingo research and monitoring program, particularly the improved G1, G2, and G3 estimates can be utilized by the WQSTM will also be offered.

11:00 Progress in the Simulation of Tidal Wetland and Shallow Water Processes – Carl Cerco, U.S. CoE ERDC

Progress in the simulation of tidal marsh attenuation of **nitrogen**, phosphorus, and sediment will be reviewed. The status of developing an improved representation of shallow water in the Water Quality and Sediment Transport Model (WQSTM) will also be presented, and a schedule for the simulation of oyster sanctuaries and aquaculture will be discussed.

11:30 Sediment Composition and Diagenesis – Jeff Cornwell and Jeremy Testa, UMCES

The composition of Conowingo sediments in long and short cores, the estimated reactivity of their organic material, and their estimated biogeochemical fate in tidal water **deposition** will be described. Measured sediment nutrient flux rates of Conowingo Sediment will be discussed.

12:10 Sedimentation Rates and Patterns – Cindy Palinkas (UMCES)

The details of particle dynamics in the Conowingo Pool including sedimentation rates and patterns will be described and the remaining work to be done on the Conowingo long cores will be discussed.

12:30 LUNCH

1:30 Comparison of Chester River Shallow-Water Models – Marjorie Friedrichs and Aaron Bever, VIMS

A quantitative evaluation and comparison of multiple existing shallow water Bay models will be presented that will assess the relative skill of multiple linked hydrodynamic/water quality models in terms of their ability to reproduce observations of various hydrodynamic and water quality variables at select shallow water sites in the Chester River.

1:50 Chester River Shallow Water Multiple Models – Joseph Zhang and Harry Wang, VIMS

Joseph and Harry will describe the application of SCHISM/SELFE, an unstructured grid model, in the Chester River shallow water work, and provide an initial look at water quality simulation of the Chester River.

2:30 ADJOURN